# ASHY STORM-PETREL: THE COLOR OF DARKNESS

***By Joelle Buffa and Kyra Mills***

## Joelle's Story

*Photo courtesy of PRBO Conservation and Science*

To keep my mind off cramping limbs as I crouch in the still, moonless night, I think about the color of darkness. Not simply black. But suffused with inklings of gray. Elusive and soft. Mysterious. All these adjectives could also be used to describe the quarry that my camouflaged colleague and I are attempting to lure into our lair. Though I cannot see her, Kyra Mills is my matched bookend at the other end of the mist net 30 feet away; she is dressed in dark colors and hunkered down against the metal pole suspending the other end of the mist net, which stretches between us like a volleyball net.

We are awaiting the masters of stealth. They arrive each night under the cover of darkness to enter their underground nesting crevices. Ashy storm-petrels (*Oceanodroma homochroa*) are one of a dozen seabirds that breed on the Farallon National Wildlife Refuge, a remote group of islands situated 28 miles west of the Golden Gate Bridge. The petrels' nighttime habits and underground habitat make it difficult to keep tabs on them. Biologists from the Point Reyes Bird Observatory (PRBO), the Fish and Wildlife Service's cooperator in monitoring and protecting the Refuge's wildlife, must go into sleuth-mode to study these small seabirds, which are about the size of a robin and the color of darkness.

On summer nights when there is no wind and no moon (a rare combination) biologists set up mist nets from 10 pm to 2 am. Captured petrels are weighed, measured, examined for breeding and other physical conditions, banded, and released. From this data we can determine population size and trends over time. Although the Refuge supports one of the largest nesting colonies of Ashy storm-petrels anywhere (over 50% of the world's population), we are worried about the alarming and sustained decrease in Farallon Island petrel numbers:  a 40% decline over a 20-year period.

Why are petrels declining? Predation by western gulls and burrowing owls is a big factor. Petrels probably evolved their nocturnal habits to avoid predation. An expansion of nesting gulls into prime petrel breeding areas over the last 30 years, and over-wintering burrowing owls that disperse from the mainland, are overwhelming the petrel's ability to withstand predation. Our long-term monitoring, as well as newer studies being initiated, provide clues and may help us devise management actions to reverse the

decline.

I wait, listening to the boom box serenading the stars with petrel love songs - an eerie mix of purrs, churrs and clicking sounds. Petrels returning from ocean feeding bouts to their nesting crevices will sometimes investigate these tape-recorded “Sky Calls” of other petrels, and become entangled in the hairnet-like material of the mist net.

Sensing rather than seeing or hearing movement from the net, I rediscover a long-forgotten part of my brain: the part that remembers how to stalk and catch prey. Adrenaline surging, I scramble down the length of the net. Kyra is already working to free one of two snared petrels. I gently cup the body of the second petrel in my left hand as my right hand unweaves the strands wound around legs, wings, and head. I am surprised at the solid and firm limbs of this seabird. I have handled many landbirds before and their wings seem delicate in comparison. A stealth bomber versus an ultra-light.

Once the bird is untangled, I marvel at the webbed and winged de-salinization plant I hold in my hand. Head to toe the petrel is perfectly molded for the double life it leads, by sea and by land. Atop its beak is a special tube which expels salt from the seawater it ingests while feeding. Belonging to a family of birds called “tubenoses” the petrel has special salt glands which remove excess salt. Its webbed feet are tipped with tiny claws, multi-purpose swimming and rock-scrambling tools.

*Photo by © Brian O’Neill*

Each petrel is banded with an individually numbered metal leg band, which it will wear for the rest of its life. The British call it “ringing,” which seems a more fitting term. A ring signifies commitment, and each “ringed” petrel will continue to be tracked by biologists for the rest of its life, which can be as long as 30 years. The number of unbanded petrels and “recaptured” petrels, birds caught again that have previously been banded, are later plugged into mathematical formulas and computer models to estimate population size. Kyra and I work as a team to weigh each bird and take wing and bill measurements. We blow on its belly and record that it has a “brood patch”, a featherless spot which transfers warmth to its single egg or chick during incubation and chick-rearing. We find that this petrel does have a brood patch, so we hasten to finish our work and release it to return to its nest. It may have been at sea two or three days in search of food.

In daylight, I board a sailboat to return the mainland. As the Refuge Manager, I only visit the Farallon Islands once or twice during the seabird breeding season to keep my hand in the biology. Kyra and the other PRBO biologists and interns carry out a hectic schedule of counting, tracking, and marking the 12 breeding seabirds and five marine

mammal species that breed on the Refuge.

As the ocean and horizon reclaim the islands, I keep a watchful eye out, hoping to glimpse a petrel by day. But even though the Ashy storm-petrel has a relatively restricted breeding range, nesting on less than twenty off-shore islands that stretch from the Farallon Islands to Islas Los Coronados, Mexico, there's a lot of open ocean in between.

## Kyra's Story

**It is a typical summer day on the Farallon Islands. I put on my full wind attire: long johns** under my jeans, wool socks under my boots, a windbreaker over two additional layers of clothing, gloves and a wool hat. Bracing myself , I step outside only to be met with a blast of frigid wind that catches me off guard and nearly knocks me off my feet. Working in windy conditions is very tiring, but I remind myself that it is the prevailing spring northwest winds that are responsible for the high ocean productivity of this area, allowing for ample food for seabirds and marine mammals. And because I have made the study of seabirds my career, I put up with the wind.

I scramble to the top of the lighthouse, named because of the lighthouse located at the top, which is 360 feet above sea level. Ashy storm-petrels nest in rocky crevices that are found along this hill, and I am on a mission today to find petrels that are nesting in these crevices so that we can monitor their reproductive success. Ashy storm-petrels are small seabirds, weighing approximately 42 grams and just over seven inches in length. This species belongs to the order Procellariiformes, the same group as albatrosses, shearwaters, and fulmars. Storm-petrels are the smallest members of this group, and because they are mostly nocturnal in their breeding activities, are among the least known seabird species.

Precariously balanced, I put my face close to the rocks lining the trail leading up to the lighthouse, along which the lighthouse keeper had to travel to operate the light that warned sailors of the rocky Farallon shoreline. The lighthouse is now fully automated and instead of lighthouse keepers making the daily trek up the steep incline, biologists like myself make the trip to look for sharks, whales, and to study seabirds. As I put my face close to the rocks, I take big sniffs of air, trying to smell the distinctive musky odor of petrels, which would give me a clue into which crevice to shine my flashlight.

*Photo courtesy of PRBO Conservation and Science*

I catch a wisp of musky, petrel smell. I quickly take another whiff of air before I forget the location of the crevice, and suspecting a petrel, I dig out my flashlight from my fanny pack and shine it inside. It takes me a while to locate the bird, since the crevice has several different entrances and chambers. But I have found my target: a beautiful, shiny petrel, black as night, sitting in incubation posture. Because petrels are

such shy and easily disturbed seabirds, and because their numbers are decreasing at an alarming rate, we are careful not to disturb the birds more than we have to in order to monitor their breeding success. Even though I am not completely certain that the bird is incubating an egg or chick, I will wait another five days before checking this crevice again. Ashy storm-petrels have an extended breeding season, lasting six months or more, during which time a single chick is raised. Each year we monitor about 40 - 50 crevices, of which only about half are occupied. This contrasts with the 1980's when nearly 100 crevices were monitored.

As I slowly make my way back to the house, straining against the wind, I think about the status of the petrel. As a seabird biologist, I believe that only through systematic, annual monitoring will we be able to track the reproductive and population status of this secretive species. And it is this knowledge that helps managers make decisions about conservation actions such as developing effective methods of decreasing gull densities in areas of important Ashy habitat, and better documenting Ashy predation, in an attempt to preserve this unique and beautiful seabird species. Tonight, though, I am looking forward to being lulled to sleep by the calls of these elusive birds of the sea that blend into the darkness like the color of night itself.

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